City of Monroe Water Department - Water Conservation Program

The City of Monroe supports the following conservation guidelines, principles, and practices drafted by the Michigan Section – American Water Works Association (MI-AWWA) as measures utilized for maximum water source efficiency and economic advantage. The conservation guidelines, principles, and practices shall be utilized to reduce usage on an account basis where practicable to positively benefit the water source, water system, and customer. This is a voluntary program for the City of Monroe Water System.

Program

1. Public Information and Education

a. Utilize indoor & outdoor water efficiency tips to educate customers and the public about water conservation guidelines, practices, efficiency measures, and strategies.
b. Promote program via water / sewer bills, annual water quality reports, MPACT, & City website.
c. Bills shall specify charges for water and sewer.
d. Community & School programs – provide water efficiency tips, offer water efficiency kits (available July 2008) to residential & multi-family users (~42% of consumption, ~92% of connections)
e. Goal is to educate the public / customers on how to use water more efficiently to ultimately reduce consumption on a per account basis 15% by 2015.

2. Metering

a. The entire water system is currently metered.
b. Continue inside read verification @ 5 yr intervals per 2005 Operation Assessment.
c. Assist customers with choosing the right size meter and service line.
d. Goal is to account for all water consumption, verify water is returned to the source, and ultimately reduce consumption on a per account basis 15% by 2015.

3. Meter Calibration and Replacements

a. Test and replace meters per 1963 R460.13601 req'ts.
b. Annually test and repair/replace large users (2" and larger meters using 500 units or more).
c. Continue with the 10 year meter changeout program and radio reading device upgrade. Scheduled to be completed by the end of FY 2010.

d. Goal is to account for all water consumption, verify water is returned to the source, and ultimately reduce consumption on a per account basis 15% by 2015.

4. Distribution System Audits

a. Annually at the end of the fiscal year complete a system audit.
b. Analyze consumption using AWWA standard methods to normalize system function & consumption.
c. Goal is to perpetually perform this Best Management Practice to reduce unbilled water (<5%) and account for all water incorporated into the system.

5. Leak Detection and Repairs

a. Annually repair leaks that surface (i.e. main and service breaks / leaks).
b. Administer distribution system leak detection program following same pattern as Preventative Maintenance Program.
c. Annually perform Preventative Maintenance Program.
d. Annually perform Capital Improvement Program.
e. Goal is to perpetually perform this Best Management Practice to reduce unbilled water (<5%), improve reliability, asset management, and water quality within the system.

6. Full Cost Pricing

a. Review and establish water rates based on annually budgeted operation and expenses including depreciation.
b. Review and establish charges and system development fees annually for new customers.
c. Goal is to collect revenues as a cost-of-service accounting to pay for expenses, allow for replacement / expansion costs to replicate the true value of water, and ultimately reduce consumption on a per account basis 15% by 2015.

7. Outdoor Efficiencies

a. Use suggested outdoor efficiencies and strategies to conserve water use.
b. Educate customers and public on outdoor efficiency measures and strategies.
c. Goal is to maximize efficiencies of outdoor systems, educate public / customers to integrate water use efficiencies and conservation measures into the planning, design, and maintenance of their facilities, and ultimately reduce consumption on a per account basis 15% by 2015.

8. Indoor Efficiencies

a. Provide standard water efficiency kits (must be requested & inspected to verify water reduction - available July 2008) to existing and new customers. Customers will be encouraged to install the kits so as to reduce water use while realizing savings in water and sewage costs. Upon request, kits will be provided with meter changes to residential / multi-family customers (1 kit per account) who consume large amounts of water. Consumption will be monitored of customers who have received a kit. Homes with older plumbing (i.e. lead or galvanized piping) will be encouraged to retrofit / replace interior plumbing to not only improve flow and pressure, but to also improve water quality.
b. Promote 1.6 gpf toilet replacements & replacing washers with water efficient washers. *No rebate program exists currently.*
c. Goal is to maximize efficiencies of indoor systems to ultimately reduce consumption on a per account basis 15% by 2015, educate public / customers to integrate water use efficiencies and conservation measures into the planning, design, and maintenance of their facilities.

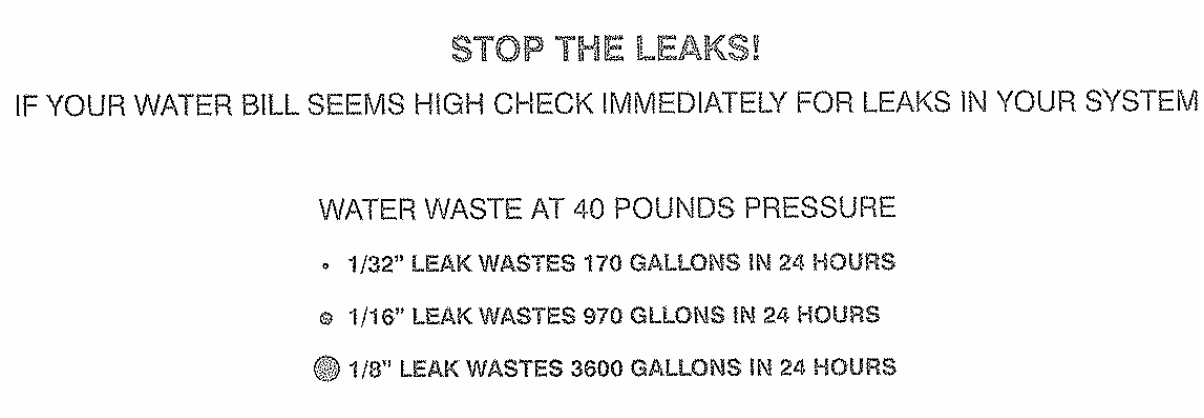
9. <u>Water Use Restrictions</u>

a. Utilize Ordinance 1044.21 for water or drought emergencies via sprinkling bans and indoor water conservation strategies. All water agreements / contracts with other units of governments are required to follow the ordinance once a water emergency has been declared.
b. Goal is to educate public / customers of the importance of water and to conserve water consumption through outdoor and indoor efficiencies. The enforcement of the existing ordinance for water or drought emergencies shall be used when appropriate to conserve water consumption.

10. <u>Land Use Planning</u>

a. Use public education to educate public / customers about water conservation and to advocate long term community and regional planning principles which include water efficiency and conservation.
b. When master plans get updated and new water districts / agreements are proposed, the cost and water savings of various efficiency strategies shall be incorporated and / or mandatory with proposed land use and developments.
c. Review annual consumption of other units of government jurisdictions (wholesale systems) to account for changes to where maximum water efficiencies may be beneficial with the water system.
d. Goal is to use public information and education to influence and mandate water efficiency strategies while ultimately reduce consumption on a per account basis 15% by 2015.

INDOOR WATER EFFICIENCIES / INFORMATION



- **Typical Water Uses by Percentage of Total Daily Use**: Faucets – 15%, Leaks – 14%, Baths – 2%, Toilets – 28%, Dishwashers – 1%, Cloths Washers – 21%, Showers – 17%, Other Domestic Uses – 2%. The bathroom can account for up to 70% of water use in the home.

- **Faucets**
  - A running faucet uses about a gallon of water per minute.
  - If a faucet drips at a rate of one drop per second, you can waste 2,700 gallons per year.
  - Repair any leaks. Turn faucets off firmly, check & replace any worn-out fixtures, washers, o-rings and hose connections.
  - Pre-treat clothing stains. If you wash clothes by hand, use a small amount of low-suds detergent & presoak very dirty items or stains. Pre-treat before washing.
  - Don't let the water run. When brushing teeth or shaving, turn the water off. Use a water basin for shaving & a glass of water for rinsing teeth. Save at least 10 to 20 gallons of water per person per day.
  - Don't run the faucet. Don't let the water run until its cold. Refrigerate a bottle of tap water or use bottled water.
  - Install low-flow faucet aerators. The difference in flow is hardly noticeable, and you'll cut water consumption in half.

- **Leaks**
  - Leaks inside the toilet can waste up to 200 gallons of water per day.
  - Even a pinhole leak, such as in a washing machine hose, can waste up to 170 gallons a day!
  - Watch carefully for dripping or leaky faucets.

- **Baths**

- Use less bath water. Don't overfill & fill less than a full tub. Better yet, you'll save water by taking a short shower instead.

❖ **Toilets**
- On average, daily indoor water use in a typical single family home with no water-conserving fixtures is 74 gallons. Everyday tasks, such as flushing a toilet, use large amounts of water. Each toilet can use up to 5 gallons of water per flush.
- Reduce water during flushing. Use a water displacement device (toilet dam, tank bank, or filling a plastic gallon container) to displace water in the tank. Don't obstruct float. Replace the toilet flapper with a more efficient one.
- Check for leaks. Check by adding a few drops of food coloring to the tank. Coloring will appear in the toilet if it's leaking.
- Save water by flushing less. Only flush when necessary; don't use the toilet as a wastebasket. Replace an old toilet with a water-efficient model (1.6 gallons per flush or less) which uses at least 20% less water than standard toilets.

❖ **Dishwashers**
- Reduce amount of dishwashing. Run the dishwasher only when it's fully loaded, this saves water, energy, detergent, & money. Save energy by drying dishes by hand or air-drying. Use paper or recyclable plates.
- Don't wash dishes twice. Don't pre-rinse; scrape off food first using a spatula. Soak very dirty pans & dishes before washing.
- Consider purchasing a new, EnergyStar dishwasher. These models save both energy & water.

❖ **Cloths Washers**
- Use hot water less. Wash in warm & cold water whenever possible. It takes more energy to heat the water.
- Save water with an efficient EnergyStar new model. These models save both energy & water. New front-loading washers conserves water & energy. These models save at least 40% less water than conventional washers.
- Be a conservative washer. Run the washing machine only when it's fully loaded. Check the hoses for cracks that could result in leaks.

❖ **Showers**
- Save water with a low-flow showerhead (2 gallons per minute or less). Take shorter showers. Don't shave in the shower. Use a timer & set for five minutes. Use shut-off valve when soaping up & shampooing.

- **Other Domestic Uses**
  - Re-use water when you can. Use excess water from showers. Avoid using caustic toilet bowl cleaners which can damage plastic & rubber toilet parts.
  - Plan ahead to defrost. Don't defrost using running water. Defrost foods overnight in the refrigerator or use the microwave.
  - Conserve water when cooking. Clean food more efficiently with a vegetable brush. Use a low-flow faucet aerator for less water consumption.
  - Don't wait & waste water. Insulate hot water pipes to help heat water faster. Capture clean water in a bucket or pan while it heats, and use it for watering plants or other household needs.
  - Use another method other than garbage disposals. Avoid using them. Disposals require lots of water to operate properly. Start a compost pile. Use recycled water in disposal.

OUTDOOR WATER EFFICIENCIES / INFORMATION

- **Car Wash**
  - Be water-wise when you wash. When washing at home, use a shut-off nozzle. Where practical, use runoff for landscaping or wash car on lawn. Use a commercial car wash that recycles water.

- **Outdoor Cleaning**
  - Clean without water. Clean sidewalks & driveway with a broom, not a hose. Collect rainwater for reuse.

- **Pools, Spas**
  - Repair any leaks. An inch a day leak can be very wasteful. Get a pool or spa cover to reduce water loss of water evaporation.

- **Landscaping**
  - Save water when watering. Don't water your lawn during the hottest time of the day. Check sprinkler position; don't water the street, sidewalks or driveway.
  - Reduce your irrigation system run times by lowering the minutes per cycle or reducing the days per week the system turns on.
  - Water early in the morning, avoid watering during the heat of the day when water evaporates more quickly, or when it's windy. Set automatic timers to water before 6 a.m. or after 9 p.m.
  - Water your lawn in 2 short cycles rather than one long cycle. By splitting your watering time in half & by repeating it again about one hour later, you will reduce water runoff & water more deeply, which encourages deeper, healthier root development. It also allows the turf to go without water for longer periods of time.
  - Write down your irrigation schedule & keep it handy.
  - Choose native & low water using plants for your landscape. These plants thrive with less water.
  - Look into smart "xeriscape" landscaping. Group plants according to their watering needs. Plant water-saving plants, trees & shrubs. Use at least 2 inches of mulch to retain moisture in the soil.
  - Don't mow too low. Keep lawns 2 or 3 inches high to prevent them from drying out too quickly.
  - Inspect your sprinkling systems regularly, at least once a month. Even a quick glance will catch many sprinkler problems.
  - Install a drip irrigation system for shrubs, vegetable gardens, flowerbeds, or pots.
  - Put off new landscape planting until fall, when planting conditions are more favorable.